

Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Note Regarding Extended-Spectrum Beta-Lactamase (ESBL) producing bacteria

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- ESBL are Gram-negative bacteria that produce beta-lactamase enzymes capable of inactivating a wide range of beta-lactam antimicrobial agents. This usually includes most penicillins and cephalosporins. The ESBL species most commonly associated with infection are *E. coli* and *K. pneumoniae*.
- Colonisation with ESBL organisms is now very common in Ireland. Although ESBL colonisation and infection are more common in patients with identifiable risk factors (see above list for MDRO), colonisation has been reported in otherwise healthy members of the general population.
- There is no antimicrobial treatment that has been shown to be useful in clearing gut colonisation with ESBL. There is good reason to believe that giving antimicrobial treatment to colonised patients supports persistent colonisation.
- Most ESBL remain susceptible to nitrofurantoin and fosfomycin which can be effective for treatment of uncomplicated cystitis caused by ESBL.
- For those with complicated urinary tract infection or infection at other sites many ESBL remain susceptible to piperacillin/tazobactam, gentamicin and restricted agents such as meropenem.
- ESBL colonisation is most common in those with extensive healthcare exposure including acute hospitals and long-term residential care facilities for older people. Empiric cover for ESBL blood stream infection with Meropenem should be considered in patients admitted from nursing homes who are critically ill with [Sepsis](#). **Discuss with Microbiology as required.**